



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

646.3301

Job Sheet 171159



002092

Part No: 646.3301

Job Qty: 5 ea

Part Name: Upper Cutter Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/29/18

Job Tracking No: see also job 170454

Due Date: 2/16/18

Created By: Michelle Gagnon-Donovan

Type: Stock

Description:

Note: DWG REV NC3 IPP REV:A 12.10.19 NEW ISSUE DD VERF:JLM IPP REV:B 15.01.07 AS PER DWG NC3 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	5 Ea	2/15/18	2/15/18	0.00	0.00	Start Up Stores/Pkg-2	50499	APR 12 2018
110	Packaging	5 pcs	2/15/18	2/15/18	0.00	0.00	Packaging1-1	50499	APR 12 2018
120	Small Fab	5 pcs	2/16/18	2/16/18	0.00	6.94	Small Fab-1	50499	APR 24 2018
130	QC	5 pcs	2/16/18	2/16/18	0.00	0.00	QC5	50499	APR 24 2018
140	Packaging	5 pcs	2/16/18	2/16/18	0.00	0.00	Packaging3-1	50499	APR 24 2018
150	QC21-SA	5 Ea	2/16/18	2/16/18	0.00	0.00	QC21	50499	APR 24 2018

Part Op 120 - TWO fastener must be install finger-tight (see note 9) Assemble as per dwg and apply loctite 598 on all faying Descriptions: surfaces shown on dwg per note 7. exp. date:

140 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND REV***

Job BOM

Part / Item	Component Name	Quantity	Operation
646.3310	LH Half - Upper Cutter Assembly	5 Ea (1 ea)	90-Start up Operation 5049934x4 50499 80x1
646.3311	RH Half - Upper Cutter Assembly	5 Ea (1 ea)	90-Start up Operation 5017163x1 5050 527
646.3312	Center Plate	5 Ea (1 ea)	90-Start up Operation 5038772
646.3313	Upper Guide	5 Ea (1 ea)	90-Start up Operation 5037054
646.3314	Blade	5 Ea (1 ea)	90-Start up Operation 5031906
646.3315	Blade	5 Ea (1 ea)	90-Start up Operation 5031576
646.3316	Blade	5 Ea (1 ea)	90-Start up Operation 5032835
AN3-12A	Bolt	10 Ea (2 ea)	90-Start up Operation F153854
AN3-14A	Bolt	5 Ea (1 ea)	90-Start up Operation 5019387
MS21042L08	Nut	90 Ea (18 ea)	90-Start up Operation 5016879
MS21042L3	Nut	15 Ea (3 ea)	90-Start up Operation 5038764
MS27039-08-19	Screw	90 Ea (18 ea)	90-Start up Operation 5027543
NAS1149F0332P	Washer	30 Ea (6 ea)	90-Start up Operation FM133709-272
NAS1149FN832P	Washer	180 Ea (36 ea)	90-Start up Operation 5030604



Container No: S060222



Part: 646.3301

Job No: 171159

Serial No/Batch: S060222

Revision:

Inspector:

Dart Aerospace Ltd.

1270 Aberdeen Street

Hawkesbury, ON K64 1K7

CANADA

TEL: 1 613 632-5200

Email: sales@dartaero.com

www.dartaerospace.com

Date: 04/12/18

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	646.3310	5	6	0
	646.3311	5	7	0
	646.3312	5	8	0
	646.3313	5	7	0
	646.3314	5	15	0
	646.3315	5	15	0
	646.3316	5	16	0
	AN3-12A	10	68	0
	AN3-14A	5	230	0
	MS21042L08	90	1,635	0
	MS21042L3	15	2,370	0
	MS27039-08-19	90	1,302	0
	NAS1149F0332P	30	4,746	0
	NAS1149FN832P	180	5,834	0
Part Specifications				
Specifications could not be found.				

Plex 1/29/18 3:39 PM Dart.Gagnon.Michelle

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

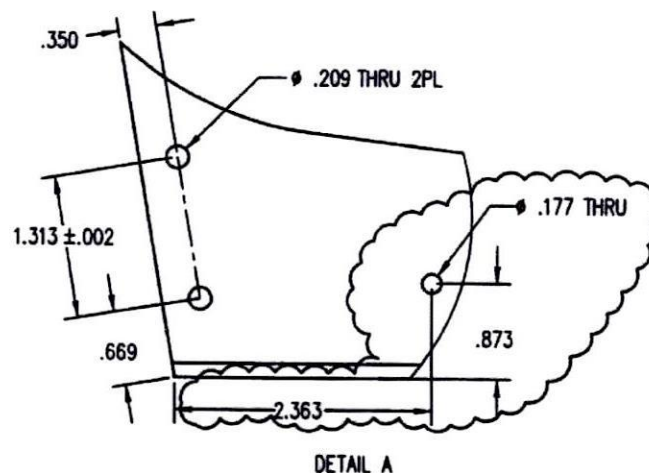
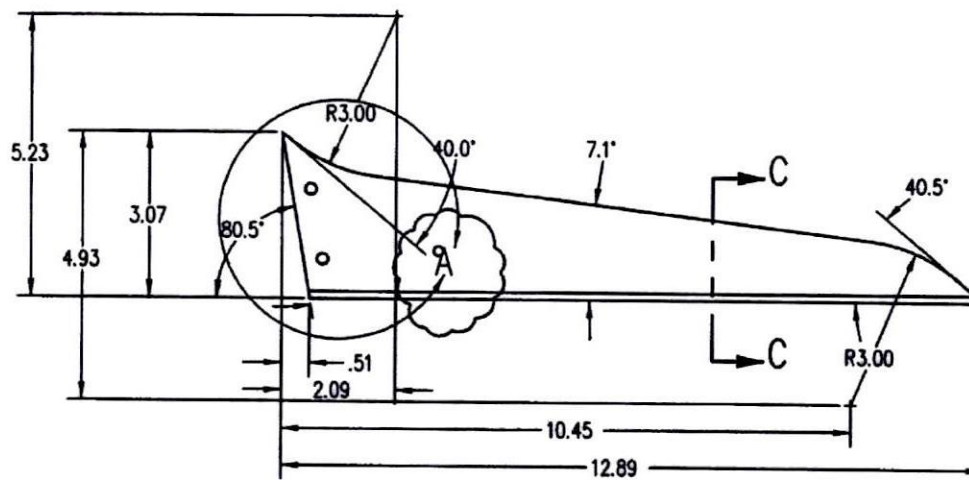
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO. 05708		SHEET 1 OF 1	
DWG NO. 646.3300	REV: N/C	PREPARED BY A. QUAN	DATE: 02/21/17
DWG TITLE: UPPER CUTTER ASSY			
APPROVED BY: ENGR [Signature]	MFG [Signature]	QC [Signature]	EFF: NEXT ORDER
REASON: REMOVED HOLE IN UPPER CUTTER DEFLECTOR. INCORPORATED ECNS 02196, 03724, 04765.			ECR: 17-005
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE			ACTION LIST: 1. N/A

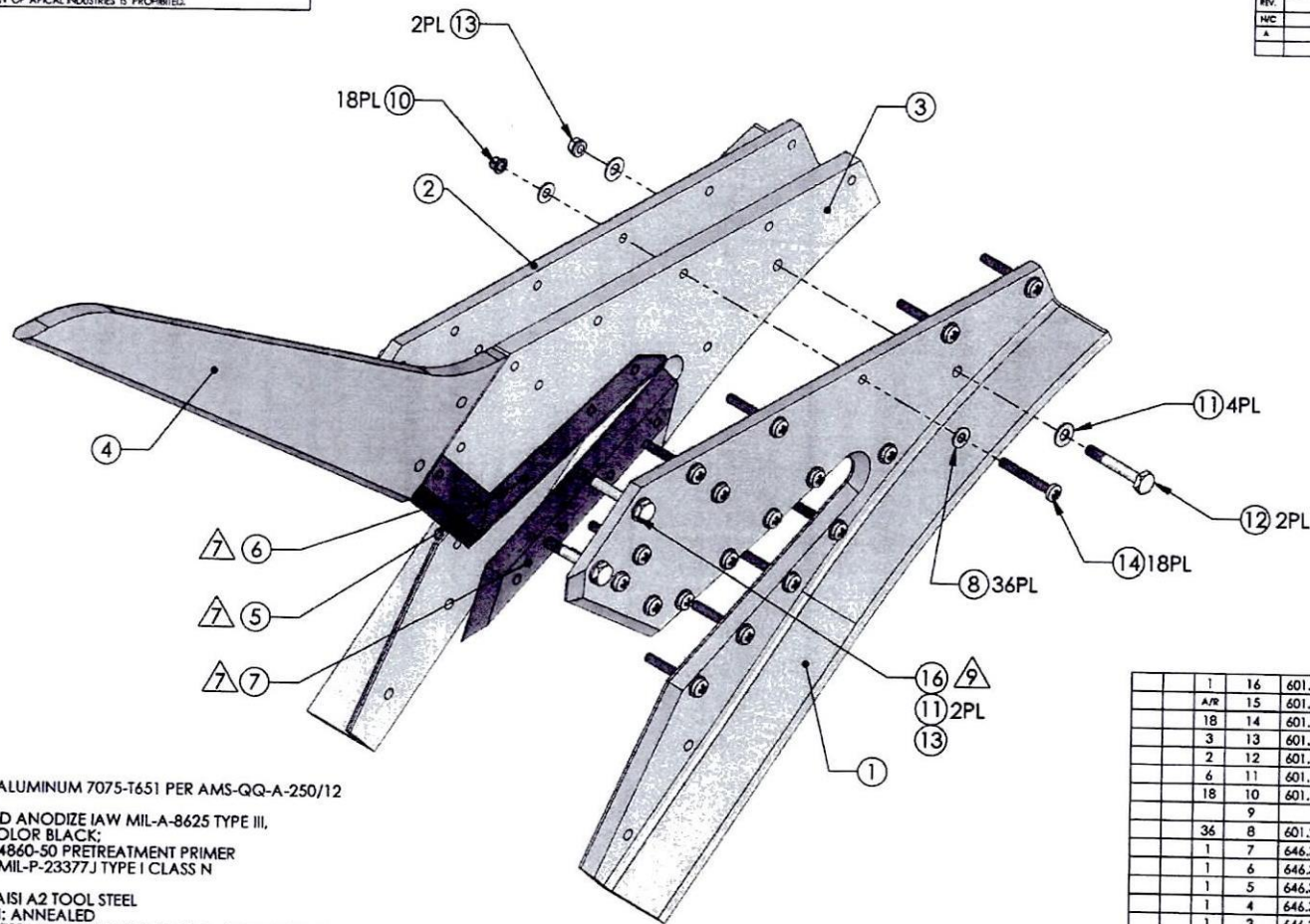
SHEET 5, ZONE A2-D2 WAS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171159

JAN 31 2018

DOCUMENTS EFFECTED:	CHANGE CATEGORY	DER REVIEW REQUIRED
☐ PATTERN ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM	☐ MAJOR ☒ MINOR	☐ YES ☒ NO



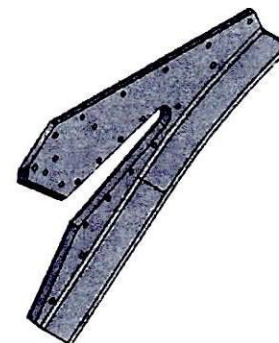
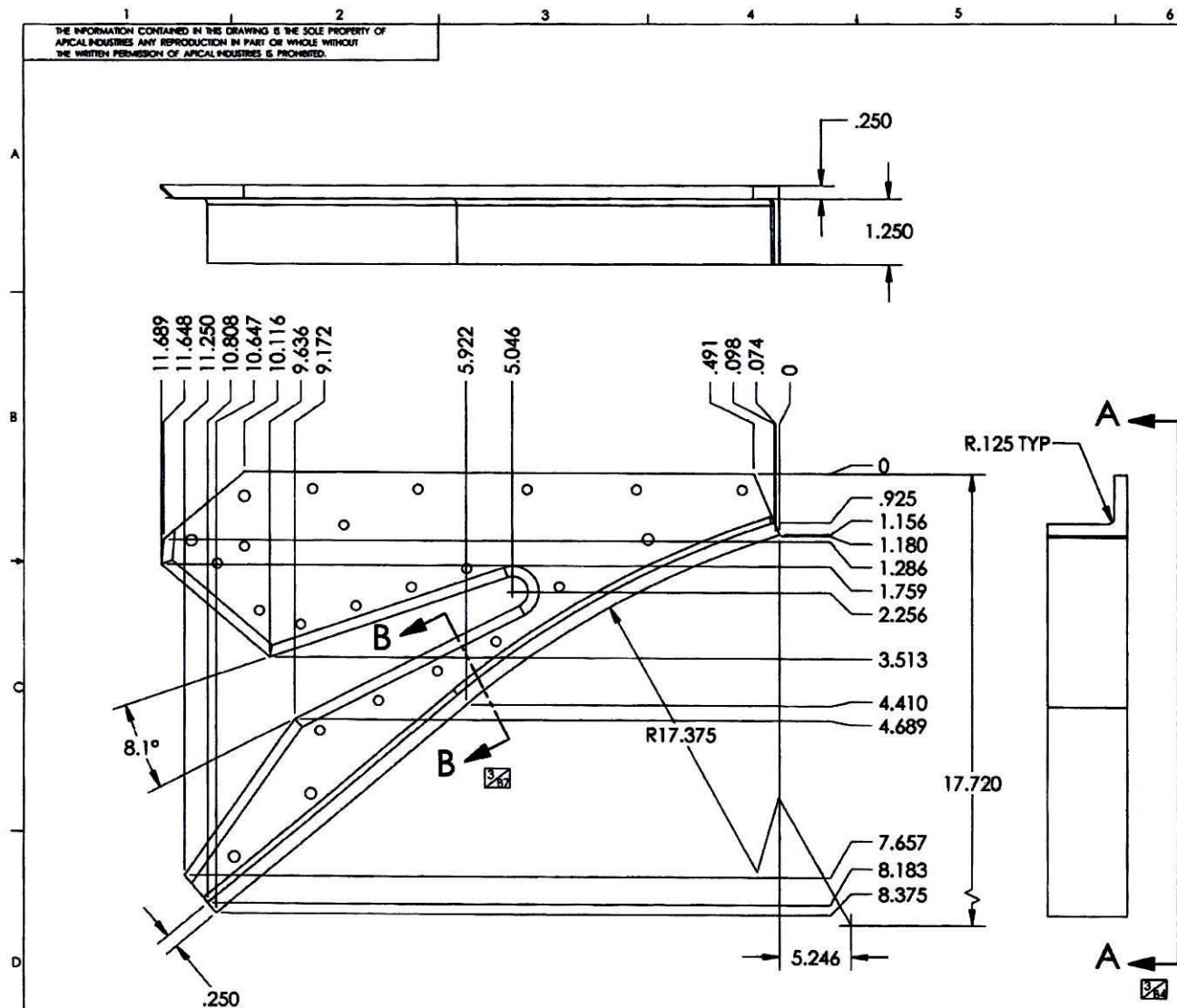
- ① MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- ② FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK;
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377 J TYPE I CLASS N
- ③ MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- ④ FINISH: PRIME IAW MIL-P-23377 J TYPE I CLASS N
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- ⑤ APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY
- ⑥ CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- ⑦ INSTALL FASTENER FINGER-TIGHT

646.3301
SHOWN EXPLODED

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	INITIAL RELEASE	08/26/08	P. BRAVO
A	INCORPORATED ECAS 02198, 03724, 04766, & 05708	02/21/17	P. BRAVO

	1	16	601.2834	BOLT		AND-1A	
A/R	15	601.2045	RTV, LOCITE 598				
18	14	601.2765	SCREW		MES20P-0819		
3	13	601.1624	LOCKNUT		M52104T5		
2	12	601.2763	BOLT		AND-12A		
6	11	601.1607	WASHER		NAS114H1032ZP		
18	10	601.1541	LOCKNUT		M52104L08		
	9		DELETED				
36	8	601.2764	WASHER		NAS114H1032ZP		
1	7	646.3316	BLADE			▲	▲
1	6	646.3315	BLADE			▲	▲
1	5	646.3314	BLADE			▲	▲
1	4	646.3313	UPPER GUIDE			▲	▲
1	3	646.3312	CENTER PLATE			▲	▲
1	2	646.3311	RH HALF			▲	▲
1	1	646.3310	LH HALF			▲	▲
	X		646.3301	UPPER CUTTER ASSY			
(SEE)	FINO #	PART #	DESCRIPTION	MAT'L	SPEC.		
QTY			PARTS LIST				
NEXT ASSY (S)	ORIGINAL DATE 8-20-08 DRAWN BY CRECHER P. BRADVO DRAWING APPROVAL 8-20-08 CONTRACT NO.			DART <i>aerospace</i> AERIAL INDUSTRIES, INC. 3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760)-724-3300			
646.4000	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .005 3 PLACE DECIMALS .001 ANGLES ± .5°			UPPER CUTTER ASSY SIZE B CASE CODE DWG. NO. REV. A 07M26 646.3300 SCALE NONE		SHEET 1 OF 4	

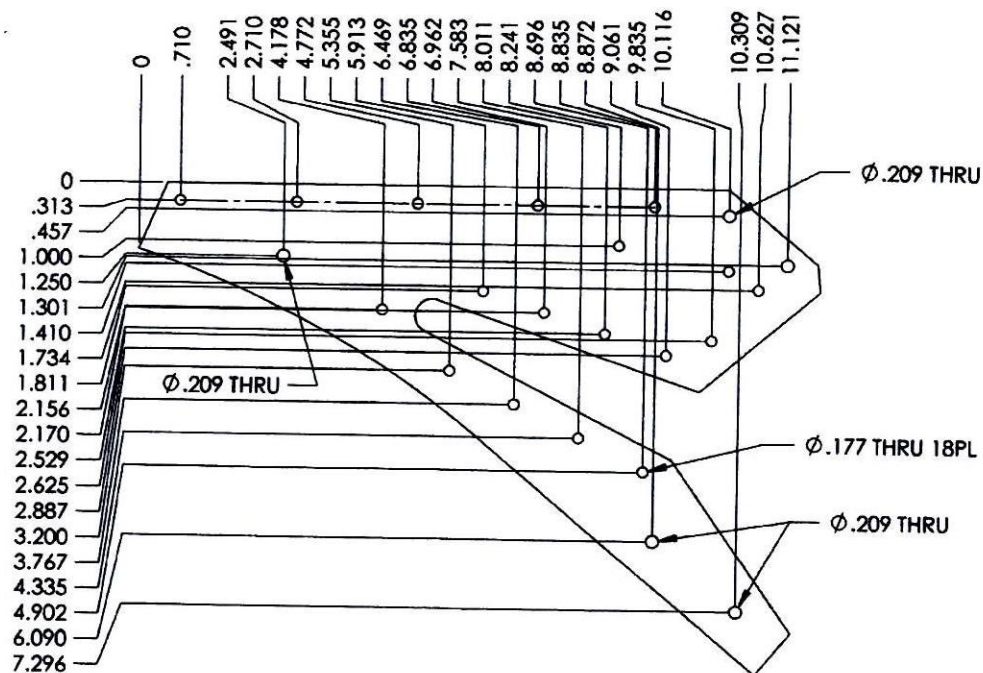
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646.3310 SHOWN
646.3311 OPPOSITE

ORIGINAL DATE: 08-24-08		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY: TORCUM		DART AEROSPACE APICAL INDUSTRIES, INC. (SEE DATE FOR CERTIFICATE)	
S. REP: P. BRAVO			
DESIGN APPROVAL:		UPPER CUTTER ASSY	
P. BRAVO			
CORRECTION NO:		REV. A	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 ANGLES ± 5°		SET: 8 CASE CODE: 07M26 SCALE: NONE	DRG. NO.: 646.3300 SHEET: 2 OF 8

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SECTION A-A

SECTION B-B

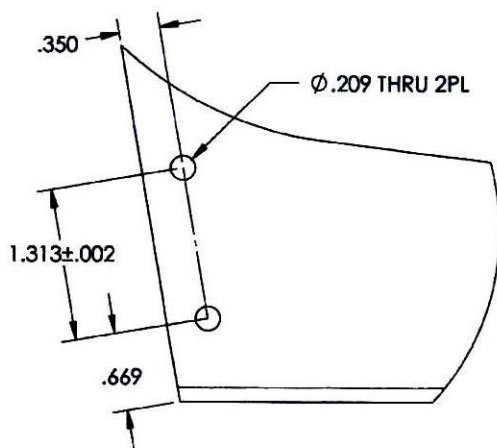
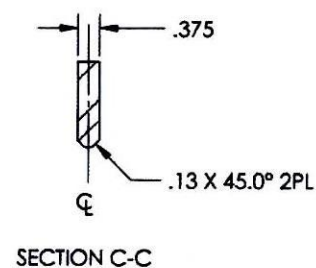
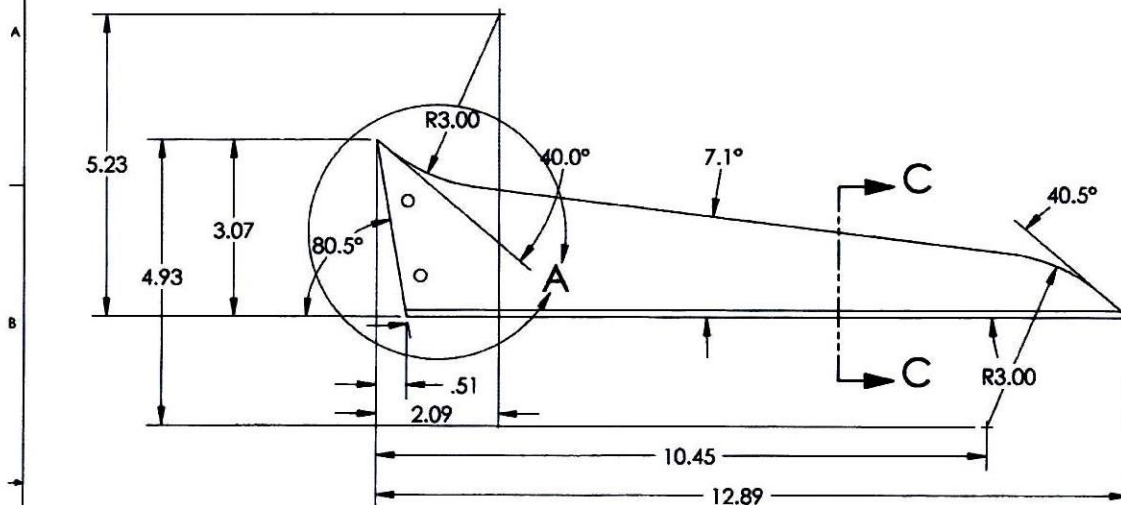
ORIGINAL DATE 10-01-78 DRAWN BY S. HUNT DRAWING APPROVAL P. SHAWO CONTRACT NO. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS .001 2 PLACE DECIMALS .0005 ANGLES 1/2°	DART AEROSPACE APICAL INDUSTRIES, INC. (A DART COMPANY)	3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300
UPPER CUTTER ASSY		
SHEET 8	CAGE CODE 07M26	DWG. NO. 646.3300
SCALE NONE		REV. A SHEET 3 OF 8

22

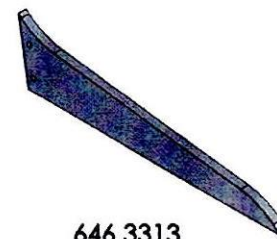


UPPER CUTTER ASSY	
DWG. NO.	REV.
646.3300	A
CAGE CODE B 07M426	
SHEET 4 OF 8	SCALE NONE

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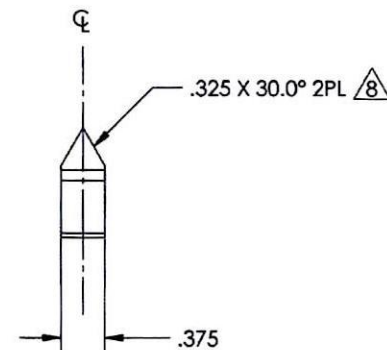
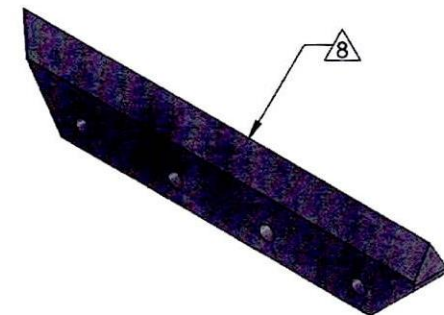
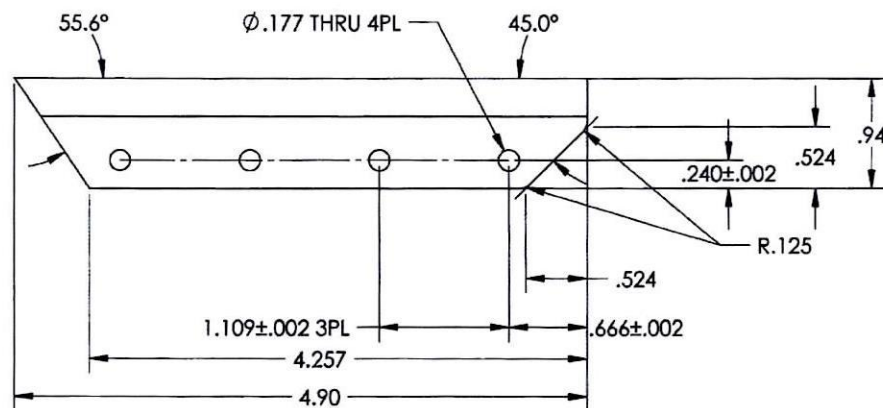
DETAIL A



646.3313

ORIGINAL DATE (DD-MN-YY) 08-24-08		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY S. HUNT	CHECKED BY P. BRAVO	APICAL INDUSTRIES, INC. (NO DUAL AMBIDEX)	
DRAWING APPROVAL P. BRAVO		UPPER CUTTER ASSY	
CONTRACT NO.		SIZE CAGE CODE B 07M26	DWG. NO. 646.3300
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± .2°		SCALE NONE	REV A
		SHEET 5 OF 8	

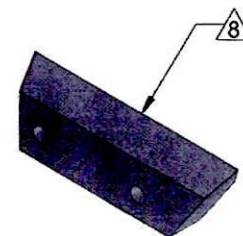
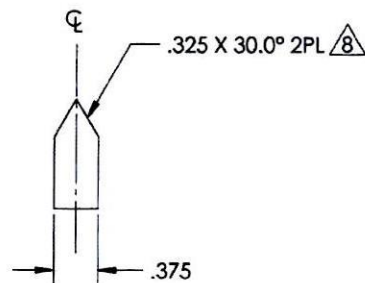
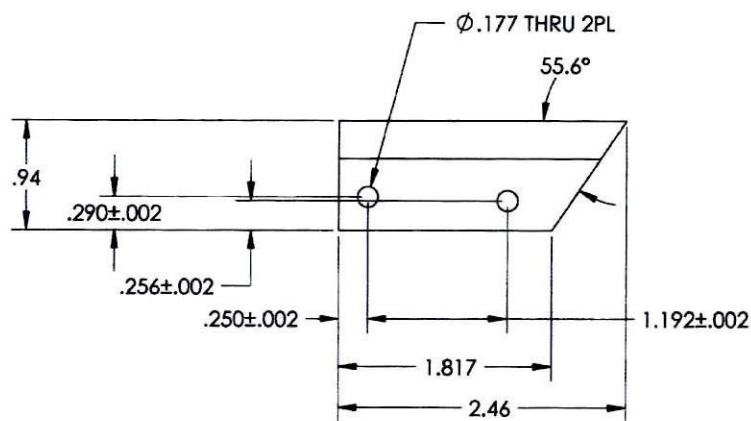
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646.3314

ORIGINAL DATE 10/01/90 08:24:08	3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-774-5300
DRAWN BY S. HUFF	APICAL INDUSTRIES, INC. AEROSPACE
CHECKED BY P. BRAYO	UPPER CUTTER ASSY
DRAWING APPROVAL P. BRAYO	REV. A
CONTRACT NO.	SCALE NONE
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .001 3 PLACE DECIMALS .005 ANGLES .5°	SHEET 6 OF 8

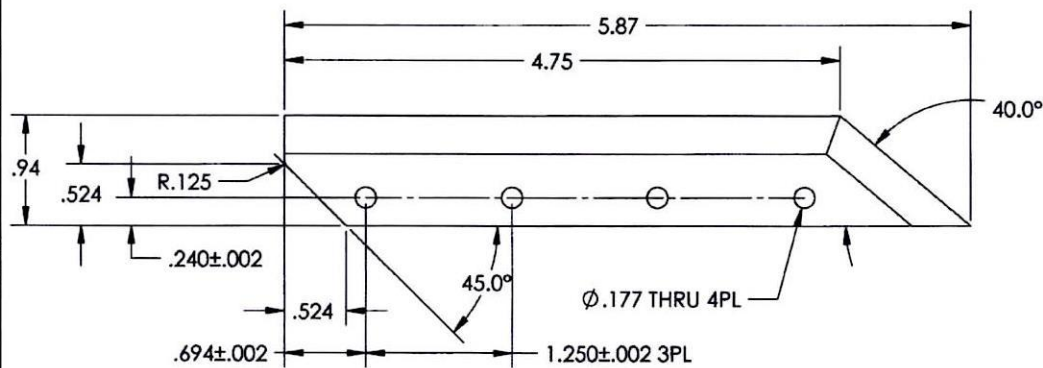
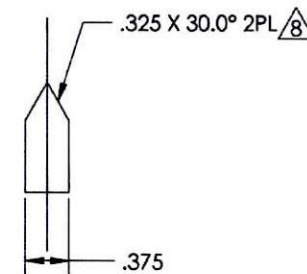
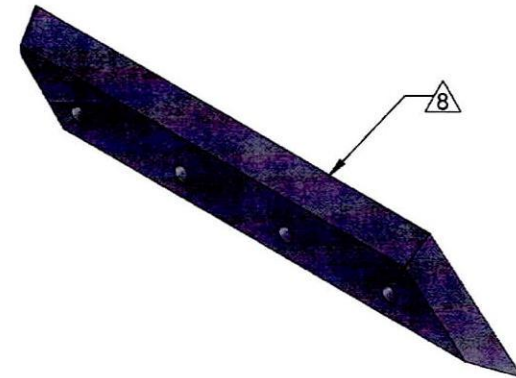
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646.3315

ORIGINAL DATE 10/04/06		3030 ENTERPRISE CT., SUITE A VISTA, CA, 92081 (760)-724-5300	
DRAWN BY S. HURF	CHECKED P. BRAYO	DART APPROSPACE APICAL INDUSTRIES INC. /BODART/ APPROSPACE	
DRAWING APPROVAL P. BRAYO		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .1^\circ$		REV B	A
DATE 07/12/06	DWG. NO. 646.3300	SCALE NONE SHEET 7 OF 8	

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646.3316

ORIGINAL DATE UNCL. DATE 05-24-08		3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760)-724-5300	
DRAWN BY S. HUFF		APICAL INDUSTRIES, INC. (DOW DART AEROSPACE)	
CHECKED BY P. BRAYO		UPPER CUTTER ASSY	
DRAWINGS APPROVAL P. BRAYO		SCALE NONE	
CONTRACT NO.		SHEET 8 OF 8	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 ANGLES ±.5°		REV. A	
CAGE CODE B 07M26		DWG. NO. 646.3300	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

Container View (Active) - Master Unit Containers

Master Unit No	Container No	Part No	Part Name	From Container	Current Location	Quantity
002092	S017163	646.3311	RH Half - Upper Cutter Assembly	S017161	CCK022	1
002092	S056907	646.3312	Center Plate	s038772	CCK015A	5
002092	S056905	646.3313	Upper Guide	s037054	CCK023A	5
002092	S056904	646.3314	Blade	s031906	CCK102	5
002092	S056903	646.3315	Blade	s031576	CCK103	5
002092	S056901	646.3316	Blade	s032835	CCK102	5
002092	F153854	AN3-12A	Bolt		ST349	10
002092	S056881	AN3-14A	Bolt	S019387	ST349	5
002092	S056880	MS21042L08	Nut	S016879	ST303	90
002092	S056877	MS21042L3	Nut	S038764	ST303	15
002092	S056875	MS27039-08-19	Screw	S027543	ST277	90
002092	S056874	NAS1149F0332P	Washer	M133709-272	ST262	30
002092	S056869	NAS1149FN832P	Washer	S020604	ST263	180

Note: Ad hoc query view of Part.dbo.Container where Container.Active = 1.

Plex 3/29/18 1:45 PM Dart.joly.jocelyne